

California's Model Urban Runoff Program (MURP): Urban Runoff Programs for Small Municipalities

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Background

Monterey Bay is a crown jewel of the California Coastline and has received special protection under the National Marine Sanctuaries Act since September 1992, and the California Coastal Act since 1976. The 5,300 square mile Monterey Bay National Marine Sanctuary includes a number of small coastal communities, and ranges from the City and County of San Francisco on the north to Cambria on the south. The cities of Monterey and Santa Cruz have long recognized that protection of the unique marine resources within the Sanctuary is critical to the economic vitality and quality of life of their communities. Monterey Bay, with its world renowned Monterey Bay Aquarium, rich bird and marine resources, recreational opportunities that include the Santa Cruz Boardwalk, and commanding vistas has become a major tourist attraction.

The Cities of Monterey and Santa Cruz developed and implemented a Model Urban Runoff Program (MURP) in a cooperative team effort with the Monterey Bay National Marine Sanctuary, the California Coastal Commission, California Regional Water Quality Control Board-Central Coast Region, and the Association of Monterey Bay Area Governments (AMBAG) funded by an EPA 319(h) grant. The MURP was developed to address and support a number of environmental regulations and initiatives that applied to the Sanctuary and adjacent coastal areas including: the Sanctuary's Water Quality Protection Program, requirements of the Coastal Zone Act Reauthorization Amendment (CZARA), Coastal Commission plans and policies, the Regional Board's watershed management initiative and basin plans, the State Water Resources Control Board's Ocean Plan and Nonpoint Source Pollution Control Program, and EPA's proposed draft Storm Water Phase II Rule (Storm Water Phase II).

The concept of the MURP originated in the Sanctuary's Water Quality Protection Program for Monterey Bay National Marine Sanctuary-Action Plan Implementing Solutions to Urban Runoff and a State's Urban Runoff Technical Advisory Committee Report, developed to address Section 6217 of CZARA.

One of the most important drivers in the development and implementation of the MURP was an initiative of municipal leaders to address the value that the community places on protecting the local creeks, streams, and wetlands and the Sanctuary's marine biological resources.

Development of Model Urban Runoff Program

A key objective of the MURP was to produce a document that would assist other communities in the development of their own urban runoff programs by providing an off-the-shelf "how-to" guidebook building on the experience gained through the development and implementation of Phase I Storm Water Management Programs. A second objective of the project was the development of Urban Runoff Management Programs for the cities of Monterey and Santa Cruz that would address the community's values and achieve early implementation of and compliance with the various regulatory programs and initiatives.

Representatives from Phase I municipalities who were responsible for the development of their programs and had gained experience in implementation were consulted throughout the project. They participated in workshops when the MURP was presented to Monterey Bay municipalities and provided extensive information and examples of material used

in their communities, including what worked and what didn't. Woodward-Clyde Consultants, with its extensive experience in working with Phase I municipalities, was selected to assist the project team in developing and producing the MURP.

The cities used a conceptual framework for developing urban runoff programs appropriate for their individual needs following the guidance recommended by the MURP. It included four major steps:

- **Assessment** – Institutional assessment and assessment of environmental resources and sources of pollutants of concern
- **Development** – Program management, institutional arrangements and coordination, legal authority, and fiscal resources
- **Implementation** – **BMPs** and model programs for each of the six control measures proposed in Storm Water Phase II and for control of commercial and industrial activities
- **Evaluation** – Progress reporting and evaluation, water quality monitoring, and program update.

Periodic meetings were held during the two-year grant period to share, review, and comment on individual city work products, review progress, prepare and validate the MURP, and discuss early implementation actions. The Sanctuary was instrumental in the early implementation effort by providing public information and outreach support and developing public education materials. The Coastal Commission played an active role in formulating strategies for addressing Sanctuary-wide water quality and land use concerns and providing support in the development of GIS-based land use maps. Project status reports were presented to the Monterey Bay Regional Stormwater Management Task Force, AMBAG, city councils, and Monterey Bay area public works officers.

The Model Urban Runoff Program

The MURP contains these four major steps for the development and implementation of an urban runoff program, and a corresponding appendix containing additional information, examples, models, references, and contacts for further information.

The Assessment Phase of the MURP describes the importance of information gathering and research to provide an early survey of the municipalities, current policies, programs, legal authorities, and fiscal resources applied to control urban runoff. A similar institutional assessment of existing regional storm water, watershed, and other water quality control programs is recommended to avoid duplication and to identify potential conflicts, opportunities for coordination, and areas not previously addressed. This phase also provides guidance and methods for (1) describing a community's water resources and activities that can be impacted by polluted runoff, (2) mapping the storm drainage system, (3) developing a relationship of pollutant sources/activities to pollutants of concern, and (4) developing a working map to assist in targeting problem areas or pollutant sources. Coordination with and building upon existing efforts, including joining Phase I programs, is encouraged.

The Development Phase of the MURP describes the (1) selection of the program management structure, (2) identifies individual and departmental responsibilities for management of individual program elements (public education, control measures, or **BMPs**) and (3) coordination with other internal and external programs and agencies. The legal authority to ensure implementation of **BMPs** and achieve compliance with the MEP standard of the Clean Water Act was developed through use of a model ordinance. The appendices include examples of language for the amendment of Local Coastal and General Plans as required by the State of California. Revisions to the California Environmental Quality Act checklist were recommended to provide planners an additional tool to evaluate impacts of runoff from both new development and re-development. This Phase includes an estimate of staffing resources to implement each element of an urban runoff program. It also describes the use of assessment districts, storm water utility fees, and other sources of funding program implementation.

The Implementation Phase of the MURP describes eight program elements including six required by EPA's Phase II draft regulations as minimum requirements. MURP program elements include (1) public involvement/participation, (2) a

public education and outreach program, (3) an illicit connection and discharge detection and elimination program, (4) a municipal operations control program, (5) a construction site discharge control program, (6) a new development/redevelopment control program, (7) an optional control program for commercial facilities, and (8) an optional control program for industrial facilities. The MURP recommends objectives, **BMPs**, implementation activities, and methods for program evaluation and documentation. This includes measurable goals for each of the eight program elements. The appendices contain numerous examples of public participation and education; **BMPs** for residential areas, food service operations, municipal operations, construction sites, vehicle service facilities, and shopping centers; sample **SWPPPs** for corporation yards and construction sites; and reporting forms.

The Evaluation Phase describes methods for (1) determining whether water quality is improving and whether the efforts and resources are directed at the right source and pollutants of concern; (2) reporting progress using the BMP measurable goals, and (3) the developing and implementing of water quality monitoring programs and volunteer monitoring programs. This phase provides and stresses the need for procedures for modifying and updating the urban runoff program using the evaluation tools.

Each section of the MURP contains an extensive list of references to assist municipalities in obtaining additional detailed supporting information on how these programs were developed.

Implementation of the Model Urban Runoff Program

Municipalities in California's major metropolitan areas were encouraged, and in some cases required, to file for NPDES' permit coverage on an area-wide basis. Numerous smaller municipalities are already regulated by Phase I requirements. There are now approximately 260 municipalities, with a combined population of 29 million, regulated by Phase I NPDES permits in California.

In California, 76 incorporated places and counties are proposed to be automatically designated and 38 areas outside urbanized areas that could be potentially designated under Storm Water Phase II. The Monterey Bay Area has 13 incorporated places and counties that would be automatically designated. The MURP will be of significant benefit to a number of smaller California municipalities, and particularly in the area covered by this project.

Undertaken as part of a 319(h) Grant, this project was required to conduct an outreach effort to ensure early implementation of urban runoff programs. Two workshops were held in April of 1998 for planning, public works, building, parks, public information/education, and general municipal operations staff in the Monterey Bay Area. These workshops, attended by approximately 120 individuals, covered an introduction to urban runoff pollution, and regulatory requirements. They featured presentations from individuals experienced in the development and implementation of Phase I storm water management programs and included four break-out workshops covering MURP development and implementation.

The agencies participating in the development of the MURP have undertaken a number of actions, described in the following paragraphs, to implement the project recommendations.

City of Monterey

During the development of the MURP, the City of Monterey mapped watersheds, major storm drains, key streams, creeks and channels. They also identified and mapped automotive servicing facilities, restaurants, several industrial sites, and pest and weed management activities as potential sources of runoff pollution. Fifteen potential sources or activities that could contribute primary pollutants of concern were identified. The City has adopted a water quality ordinance and established a monthly storm water utility fee, currently \$3.43, to implement its urban runoff management plan.

In cooperation with the Sanctuary and Coastal Watershed Council, the City has also initiated a citizens participation program to label storm drain inlets and perform volunteer monitoring (Urban Watch Stormdrain Monitoring Program). This volunteer effort led to the development of a Restaurant Outreach program to educate employees and eliminate pollution. The City has commenced implementation of **BMPs** for new and existing sources, conducted water quality monitoring, distributed public education material, and is currently working to implement its construction site pollution prevention program.

In cooperation with the Sanctuary, the City has obtained a grant to install and test storm water treatment devices at the Monterey Harbor and Fisherman's Wharf parking lots to determine the effectiveness of removing oil, sediment, and trash.

City of Santa Cruz

The City of Santa Cruz developed a computer-generated map of watersheds and land uses to identify potential pollutant sources. The City adopted a storm water ordinance in April 1998, regulating all water entering the storm drain system, prohibiting illicit discharges and connections, and requiring implementation of BMPs published by the City. The City has drafted BMPs for vehicle service facilities, retail shopping areas, residential areas, and food service facilities. The City Industrial Waste Inspectors will conduct initial inspections of 100 vehicle service facilities in 1999 to determine any actions which must be taken to comply with the ordinance, with second inspections scheduled to formally determine compliance. The City hosted an outreach presentation of the program and the proposed BMPs for the business community during its Pollution Prevention Week.

City of Watsonville

The City of Watsonville began implementing a storm water program in 1991, through its industrial facilities Source Control Program, and completed a bilingual storm drain stenciling program in 1992. Subsequent to the development of the MURP, the City has completed a review of existing programs and policies, developed a new storm water ordinance, started an illicit connection program that has sampled 50% of the City's storm drain outfalls, and established a public education program in cooperation with the Sanctuary. The City plans to implement a municipal, industrial, and commercial source control program, a targeted educational outreach program, and a construction and new development program.

Monterey Bay National Marine Sanctuary

The Sanctuary's Water Quality Protection Program addresses a number of water quality issues in addition to urban runoff and targets nonpoint sources of pollution. The Sanctuary's program supports the cities' urban runoff programs by developing and distributing educational materials on urban pollution and co-sponsoring teacher training workshops with the Monterey Bay Aquarium. It also collaborates with the City of Monterey on volunteer monitoring programs and public education. The Sanctuary has prepared a plan for addressing polluted runoff from agricultural lands and has received commitments from the California Farm Bureau and six regional Farm Bureaus to form a coalition to address this issue. The Coalition will focus on educating its members on polluted runoff, establishing landowner committees and pilot projects in several watersheds, and strengthening farm management practices by developing grower self monitoring and serving as a liaison with the Sanctuary and the Regional Board.

The Sanctuary and the City of Monterey have a cost-sharing agreement, which funds a Sanctuary employee at half time in return for the development of a City public education program. This agreement is going into its third year, and has resulted in the development of public education brochures, posters, exhibits, BMP pamphlets, and the Restaurant Outreach Program. Current work is focused on the development of a Public Service Announcement, a construction site education program for developers and inspectors, and signage for Monterey's Harbor.

State of California - Coastal Commission and Regional Water Quality Control Board

Implementation of the MURP has been identified as a priority in the California Nonpoint Source Pollution Control Program's first 5-Year Implementation Plan, which the State Water Resources Control Board and California Coastal Commission developed pursuant to the Clean Water Act and Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). Key actions that the State will undertake include the distribution of copies of the MURP Guidebook to California cities and the providing of technical support and training to cities developing Urban Runoff Management Plans using the MURP.

The Coastal Commission intends to review the experiences of Monterey Bay Area cities in implementing the MURP and coordinating with the Central Coast Regional Water Quality Control Board to revise the MURP Guidebook as needed. The document will be made available to other small coastal cities by printed copies, CD-ROM, or Internet web site.

Summary and Conclusions

The Model Urban Runoff Program project, which is funded through a 319(h) Grant has provided small communities in the Monterey Bay Area an excellent opportunity to develop their own urban runoff programs and to develop and validate an off-the-shelf “how-to” guidebook on development of urban runoff programs. The MURP will potentially benefit over 100 communities in California that will be required to develop urban runoff programs implementing the six minimum control measures contained in EPA's draft Storm Water Phase II Rule and the requirements of Section 6217 of the Coastal Zone Act Reauthorization Act.

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